CLAIMS

1. A device for spraying an additive diluted with a diluent therefor, consisting of:

- a diluent container (1);
- a further container (2) for a said additive;
- at least one mixer (6);
- conduits communicating said diluent container and additive container (1 and 2) with said mixer (6) for allowing the dilution of the additive by the diluent from said diluent container (1);
- spraying means (7) connected to receive the output from said at least one mixer with a constant flow rate and to spray it at a spray zone; and
- means for transporting a solid product to said spray zone to receive the additive;
- wherein in said conduits there is a respective regulation valve (5) per liquid associated with the first mentioned and further containers (1, 2); there are dilution control means for controlling said regulation valves (5) to control the rates of flow of the diluent and additive to said mixer, said dilution control means being responsive to the flow of solid product being conveyed by said transporting means to control the rate of flow of the additive in proportion to the flow of solid product, and being effective to vary the flow of diluent in response to the desired total flow rate of liquid to said spraying means to maintain a constant total flow rate;
- characterised in that the spray nozzle is aimed towards a conveyor for a solid product to be sprayed, and in that the control means are in the form of a microprocessor responsive to the weight of solid product present on the conveyor.

2. A device according to claim 1, characterised in that one or more conduits connecting a diluent container or an additive container to a mixer are associated with

respective flow meters.

3. A device according to claim 1, characterised in that there are several additive containers (2) connected to said mixer, each said additive container being associated with a respective additive flow meter (4) and additive flow regulation valve (5)

4. A device according to claim 1, characterised in that the or each mixer is a static mixer.

5. A device according to any one of claims 1 to 4, characterised in that there are several said further containers communicating with a common said mixer (6);

- and in that the control means modulates the proportional flow rate of each of the different additives in response to the amount of solid product.

6. A device according to any of claims 1 to 5, characterised in that a flow of gas is provided to the spraying means to assist the spraying at a constant rate.

7. A device according to any one of claims 1 to 3, characterised in that, in use of the device, liquid is pumped by the diluent pump (3) from the diluent container (1) as far as a diluent flow meter (4) and then introduced into the associated diluent regulation valve (5) before being introduced into the mixer (6);

- in that liquid is pumped by the or each additive pump (3) from the additive container (2) as far as a flow meter (4) for the additive and then introduced into an additive regulation valve (5) before being introduced into the mixer (6);

- and in that the mixture of diluent(s) and additive is sprayed by an injector (7) with a constant flow rate assisted by a flow of air (8).

8. A device according to any one of claims 1 to 5, characterised by several spraying systems (7) each able to be adapted to the throughput of solid product.